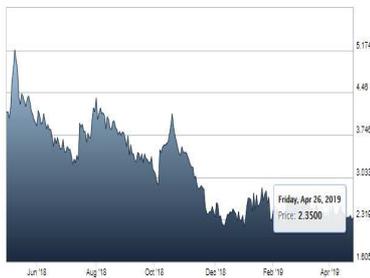


Nostra Terra Oil & Gas Company

Initiation of coverage

Oil & Gas



Source: LSE

Market data

Price (p)	2.55
12m High (p)	5.17
12m Low (p)	2.22
Shares (m)	197.1
Market Cap. (£m)	5.0
Net debt	0.6
EPIC	NTOG
Free Float (%)	92%
Market	AIM

Description

Nostra Terra Oil & Gas Company Ltd is an AIM quoted independent oil and gas company with interests in the USA and also Egypt. The company's core focus is on its portfolio of exploration, development and production assets in the West Texas Permian Basin and East Texas in the USA.

Directors and Company information

Ewen Ainsworth (Non Exec. Chairman)
 Matthew Lofgran (CEO)
 John Stafford (NED)

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Analyst

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 +44 (0)207 186 9950

Nostra Terra is an AIM-quoted E&P company with development and production assets in the prolific Permian Basin in West Texas in addition to the well-established East Texas region of the USA. The company's core asset is a 100% working interest in the Mesquite asset located on the Eastern Shelf of the Permian Basin which has estimated proven recoverable reserves of 2.4 mmbbls over 1,384 net acres. Nostra's strategy is to farm-out part of its interest in Mesquite to a third party in order to expedite a multi-well drilling programme and unlock the potential value of this exciting asset.

- ▶ The Permian Basin, located predominantly in West Texas, is one of the largest hydrocarbon provinces in the world with estimated recoverable reserves of over 92 billion boe and oil production forecast to exceed 3.9 mmbopd in 2019. It is also by far the fastest growing oil producing region in the US, driven by a raft of operators, including Nostra, utilising horizontal drilling to develop increasing volumes of hydrocarbons as the US consolidates its current position as the world's largest oil and gas producer.
- ▶ Nostra's key asset is a 100% working interest in the Mesquite asset located in the Eastern Shelf of the Permian Basin. Mesquite consists of an estimated 2.4 mmbbls of recoverable oil over 1,384 net acres. The company also possesses an option to acquire a further 600 net acres to augment its current position to a potential 1,984 net acres.
- ▶ Adapting a range of variables from a study completed by Trey Resources, a consultant to the company, we have concluded that a single horizontal well on Mesquite could be worth US\$3.3m (NPV 10) to Nostra at an oil price of US\$60 WTI. A full development of the field could push this valuation up to US\$28m based on a programme of at least eight wells each with a 5,000 foot lateral section.
- ▶ Nostra opened a data room for parties interested in farming into Mesquite in January 2019 and has had several expressions of interest already. Currently, the company is keen to secure a farm-in partner through which to expedite initial drilling on Mesquite and de-risk the project considerably.
- ▶ Nostra is in advanced discussions to acquire an additional 160-acre lease opportunity in the wider Mesquite area. This new standalone lease presents an opportunity to drill a half-mile horizontal well which could increase Nostra's proven reserve base and deliver a near term boost to cash flow. We also believe that it could also serve as a valuable pilot well in the Mesquite area, demonstrating the prospectivity of the acreage and serving to de-risk the Mesquite play in the context of monetising the asset including potential farm-in partners.
- ▶ A recent placing to raise gross proceeds of £1.15m is being utilised to strengthen Nostra's position regarding Mesquite ahead of identifying a potential farm-in partner. We believe that the company is also examining debt financing solutions to fund early development activity. The scale of such a facility would be determined by Nostra's ultimate operating interest in Mesquite; however, we believe that early cash flow from the field would enable the company to pay down debt rapidly with sufficient headroom to reinvest in the field.
- ▶ Nostra possesses existing production from two vertical wells located on a 120-acre lease in Mitchell County, West Texas in which the company holds a 53.25% working interest. This is augmented by output from the company's Pine Mills oil field in East Texas where Nostra is engaged in an ongoing workover programme to sustain and increase production from a portfolio of up to 15 wells. Combined, we estimate that these assets currently deliver c.150 bopd net to the company, the revenue from which is moving the company towards cash breakeven at the group level, particularly as oil prices continue to rally over the current year.

We believe that the current market value of Nostra is underpinned by its existing production assets. However, on our assumption that Nostra can secure debt rather than equity financing for its core Mesquite asset at this stage, we have ascribed a sum of the parts valuation to the company of £22.8m (NPV 10). This implies an indicative valuation of 10.9p per share on a fully diluted basis. We note that this assessment will be subject to substantive change in the event that the company attracts a farm in partner for Mesquite or raises additional equity.

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An introduction to Nostra Terra

Nostra Terra is an AIM-quoted junior E&P company with core development and production assets in the prolific Permian Basin, West Texas and also the well-established East Texas region of the USA. The company's key asset is a 100% working interest in the Mesquite asset, comprising 1,384 net acres located in the Eastern Shelf region of the wider Permian Basin. Mesquite was acquired in October 2018 and is estimated to hold recoverable reserves of 2.4 mmbbls of oil. The asset is located in a 'wider Mesquite area' estimated to extend over at least 30,000 acres.

Nostra also has interests in three additional Permian Basin properties which it acquired between November 2016 and October 2017. These are located in Mitchell County, Texas, in close proximity to Mesquite and consist of working interests ranging from 53.25% to 75% (with the majority at 75%) over 370 acres. The company has successfully drilled two wells on these properties which are currently producing oil and generating cash flow to the company. The first well reached pay-out in less than one year, whereby Nostra Terra recovered 100% of the money invested.

Nostra also has interests in three additional Permian Basin properties which the company acquired in October 2017. These are located in Mitchell County, Texas, in close proximity to Mesquite and consist of a 53.25% working interest in a 120 acre lease. The company has successfully drilled two wells on these properties which are currently producing oil and generating cash flow to the company.

In East Texas, Nostra holds a 100% working interest in the producing Pine Mills asset, a 2,400 acre property located in Wood County, East Texas. Pine Mills is currently producing c.130 bopd and the company's aim is to sustain production through an ongoing low cost workover programme focused on already identified targets.

Location of Nostra's Permian Basin and East Texas assets



Source: Google Earth

Company strategy

Mesquite represents Nostra's core asset as a function of its relative size and upside potential. Independent E&P company and consultant to Nostra, Trey Resources Inc., has estimated that the existing acreage at Mesquite could be fully developed with a horizontal drilling programme consisting of up to eight wells with the potential to generate a NPV of US\$28m for the project upon completion.

The management's (See Appendix for Directors biographies) core focus is to commence drilling activity on Mesquite in 2019 and unsolicited interest from several parties indicates that the potential to bring in a farm-in partner to provide additional funding and subsequently de-risk the project is escalating. Nostra has already established a data room for parties interested in this farm-in opportunity where potential partners can access details of the engineered economics of the field.

Nostra strengthened its position regarding Mesquite with the successful completion of a placing to raise £1.15m (gross) of new equity in late February 2019 with which to fund ongoing Mesquite farm-out activities.

Nostra's potential growth is underpinned by existing group production, which we estimate to be approximately 185 bopd (gross) from the Pine Mills asset in East Texas in addition to existing producing wells in the Permian Basin from the three initial acquisitions, providing valuable revenue and cash flow to the company.

An indicative valuation

We have established coverage of Nostra with an initial sum-of-the-parts valuation of 11.6p per share equivalent to 10.9p per share on a fully diluted basis. To our dollar denominated valuation in the table below, we have applied total issued share capital of 197.1 million shares and the impact of 10.4 million options and warrants amounting to fully diluted equity of 209.3 million potential shares in issue. Our valuation assumptions are based on an average US dollar/Sterling exchange rate of US\$1.30: £1.00 and a long term oil price assumption of US\$60.00 per barrel.

Nostra Terra valuation summary

Country	Asset	Status	Valuation US\$m	Valuation £m	Undiluted p	Diluted p
USA	Pine Mills	Production	8.6	6.6	3.3	3.2
USA	Twin well	Production	0.3	0.2	0.1	0.1
USA	G6 well	Production	0.4	0.3	0.2	0.1
USA	Mesquite	Development	28.0	21.5	10.9	10.3
Egypt	East Ghazalat	Production	0.0	0.0	0.0	0.0
	Group overheads	Corporate	-1.3	-1.0	-0.5	-0.5
	Estimated cash	Corporate	1.3	1.0	0.5	0.5
	Estimated debt	Corporate	-2.1	-1.6	-0.8	-0.8
	<i>Notional Mesquite financing*</i>	<i>Corporate</i>	<i>-6.0</i>	<i>-4.6</i>	<i>-2.3</i>	<i>-2.2</i>
	Options and warrants	Corporate	0.5	0.4	0.2	0.2
	Total		29.7	22.8	11.6	10.9

Source: Shard Capital estimates

Important observations

*Within our summary table, we have made a series of independent assessments, the most important of which is our treatment of the company's Mesquite asset. Within our assumptions, we note that future drilling on Mesquite on a 100% interest basis is largely unfunded and at this stage, we believe that the company has several options. These include seeking a farm-in partner to facilitate the partial funding of a development programme on the field, issuing further equity or securing debt financing.

The farm-in opportunity

Although Nostra is examining the potential to bring in a partner on Mesquite, reflecting the impact of a potential farm-in on Mesquite is difficult given the number of deal permutations that could exist with regard to such variables as the potential interest and commensurate financial contribution of a third party and Nostra's ultimate interest in the asset. As such, we have elected not to apply such a scenario at this early stage prior to any substantive announcement from the company.

Funding Mesquite with equity financing

Our table below outlines the potential impact on our undiluted sum of the parts valuation in the event that Nostra elects to raise the suggested financing for Mesquite (suggested at the equivalent of US\$6.0m in this case) as equity. Although this would free Nostra from the financial burden of making ongoing interest and capital repayments from field cash flow, we note that this is a heavily dilutive financing solution given the current market capitalisation of the company.

Equity dilution model to fund Mesquite

Notional equity raised		Share price	Equity	Total number of		Value	Implied value
US\$m	£m	p	discount	Shares issued	shares in issue	£m	per share (p)
6.0	4.6	2.35	0%	195,885,297	393,017,200	27.0	6.9
6.0	4.6	2.12	10%	217,650,330	414,782,233	27.0	6.5
6.0	4.6	2.00	15%	230,453,291	427,585,194	27.0	6.3
6.0	4.6	1.88	20%	244,856,621	441,988,524	27.0	6.1
6.0	4.6	1.76	25%	261,180,396	458,312,299	27.0	5.9
6.0	4.6	1.65	30%	279,836,139	476,968,042	27.0	5.7

Source: Shard Capital estimates

Debt financing solution

We believe that a debt financing solution carries a strategic advantage over near term equity financing in this instance given its less dilutive impact and the likelihood that it could be repaid rapidly in the event that Mesquite production commences.

In this particular case, we have applied the present value of a notional US\$6.0m debt facility which we believe is sufficient to fund the company's share of early drilling activity (assuming two horizontal wells) until the project becomes self-funding through project cash flow post the drilling of the two initial wells.

Given that we have stated that Nostra's strategy is to ultimately farm out a proportion of Mesquite to a third party, we believe that accommodating a reduced interest and an equivalent reduced financing exposure in the event that Nostra agrees a deal, would be a straightforward adjustment to make to our valuation.

Other assumptions

The valuation of the other assets, including Pine Mills, the G6 well and the Twin Well are based on NPV calculations outlined within this report. These are calculated prior to the application of Federal taxation which would be applied at the group level in the event that Nostra Terra reports a pre-tax profit. We note that the value of these assets, excluding Mesquite at this stage, underpins entirely the current market capitalisation of the company.

Other corporate adjustments including the existing debt facility, corporate overheads and group cash are based on current assumptions and represent our estimates prior to the publication of Nostra's full year report and accounts for the financial year ended December 2018.

Cash flow potential within the portfolio

As noted above Pine Mills, G6 and the Twin Well are all generating cash flow to Nostra at a level we estimate to be approximately US\$1.5m per annum before the application of Federal taxation. However, we estimate that post the suggested eight well drilling programme on Mesquite, this asset has the potential to throw off free cash flow in excess of US\$4.0m per annum alone for at least five years after the drilling programme is completed.

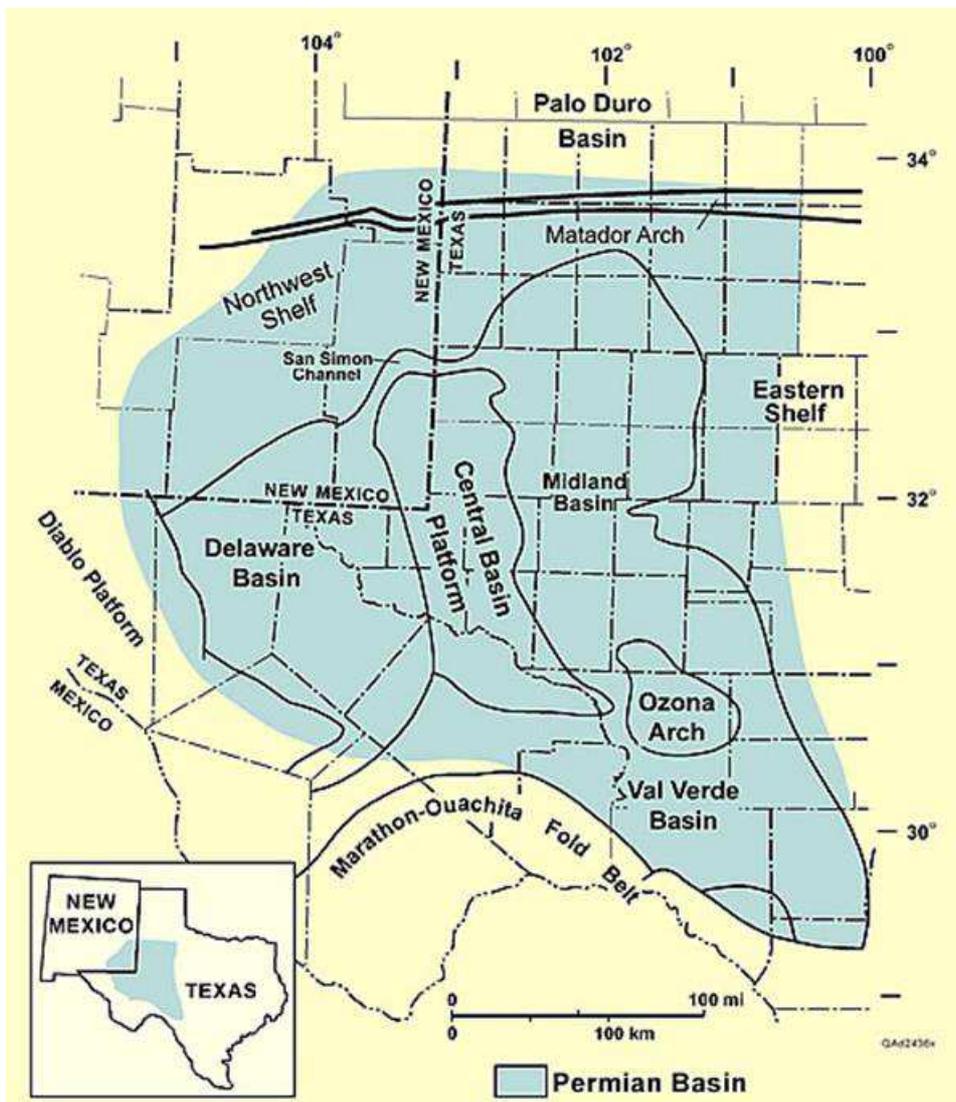
The Permian Basin

The Permian Basin is a large sedimentary hydrocarbon basin in the south-western region of the US. It is one of the largest oil and gas plays in the world with vast technically recoverable reserves estimated to be over 46 billion barrels of oil and approximately 281 TCF of gas according to the US Geological Survey.

The region is located primarily in West Texas although a significant region of the basin is also located in the state of New Mexico to the northwest. The overall basin covers an area in excess of 86,000 square miles and extends across a vast area approximately 250 miles wide by more than 300 miles long.

The basin is named as it has one of the world’s thickest series of rock formations deposited during the Permian geological period which spans from the end of the Carboniferous some 299 million years ago to the beginning of the Triassic period around 251 million years ago.

The Permian Basin and its major provinces



Source: US Dept. of Energy

Components of the Permian Basin*

As the map above suggests, the greater Permian Basin is comprised of several key sub-basins, the largest of which include:

- The Midland Basin, the largest component of the greater basin area. This is a westward-dipping basin subdivided into several formations and is composed of laminated siltstone and sandstone.
- The Delaware Basin is the larger of the two major lobes of the Permian Basin within the foreland of the Ouachita–Marathon thrust belt separated by the Central Basin Platform. The basin contains sediment dating to Pennsylvanian, Wolfcampian (Wolfcamp Formation), Leonardian (Avalon Shale) and early Guadalupian times.
- The Central Basin Platform is a tectonically uplifted basement block capped by a carbonate platform. It separates the Delaware and Midland Basins and is subdivided into several formations, from oldest to youngest: Wolfcamp, Abo, Drinkard, Tubb, Blinbry, Paddock, Glorieta, San Andres, Grayburg, Queen, Seven Rivers, Yates, and Tansill Formations.

Eastern Shelf of primary importance to Nostra Terra

Of key significance to Nostra is the Eastern Shelf region, which similar to the North-western Shelf in New Mexico, is composed of shelf edge reefs and shelf carbonates flanking the Delaware and Midland Basins that grade up-dip into siltstones and evaporites. The Eastern and Northwestern Shelves are subdivided into the San Andres, Grayburg, Queen, Seven Rivers, Yates, and Tansill Formations.

*Source of primary data: AAPG Bulletin (Wayne R. Wright) 2011

The Formation characteristics*

With multiple formations of potential interest to the company, Nostra Terra is focusing its Eastern Shelf activities on the Permian Period play, with multiple stacked pay zones (formations) which include the San Andres, Glorieta, Clear Fork, Wichita, and Wolfcamp. These formations are Leonardian-aged reservoirs deposited during the period 280-270 million years ago in North America.

With more than one billion barrels of original oil in place (OOIP), the major producing trend is concentrated along the eastern margin of the Central Basin Platform and Northern Shelf of the Midland Basin with subsidiary production along the Eastern Shelf where Nostra's Mesquite acreage is concentrated (see map overleaf).

Many of these fields were discovered in the 1940s and 50s and several are still producing under secondary recovery techniques such as waterflood. Porosities and permeabilities within the formation commonly range from 7%-15% and 0.5-30md respectively and reservoirs typically produce light oil in the 35-42° range.

The oil column can range from 100 feet to over 1,400 feet depending on the location and net pay ranges from less than 50 feet to 360 feet. As the reservoir is tight, primary recovery to date has been comparatively low at 6%-15% of the estimated OOIP. However, the advancements made in horizontal drilling in the last 20 years imply that these formations may possess significant developmental upside that did not necessarily exist when these formations were originally drilled.

Nostra is already producing oil from the San Andres and Clear Fork from its existing wells in the Permian Basin and company also views the associated Glorieta, Wichita and Wolfcamp formations as prospective for future production.

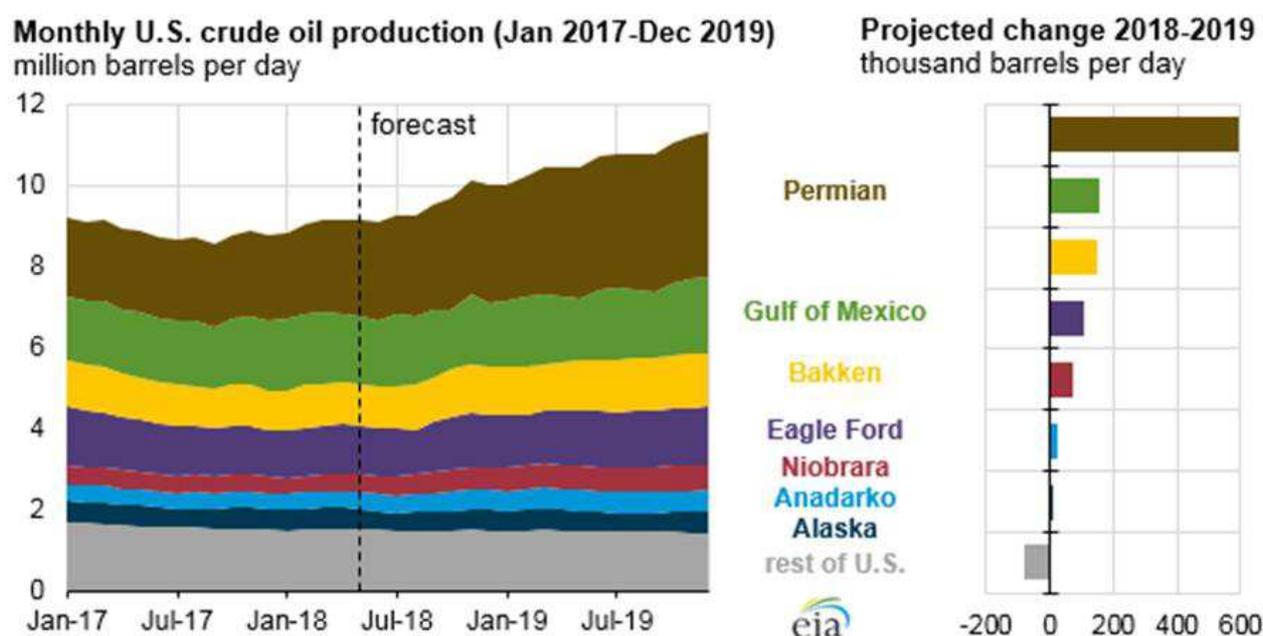
*Source of primary data: Oil & Gas Journal

Permian Basin production

The US exited 2018 as the world's largest oil producer with domestic production estimated by the US Energy Information Administration (EIA) to be approximately 10.7 mmbopd with forecast production showing further gains to surpass 11.7 mmbopd in 2019. As the chart below depicts very clearly, within this total, the Permian Basin represents the most prolific oil producing region with output in excess of 3.3 mmbopd in 2018.

The right hand scale is particularly instructive as it indicates that the Permian is the fastest growing hydrocarbon region in the US by a considerable margin and the EIA expects that Permian Basin production is likely to surpass 3.9 mmbopd in 2019. We believe that this is a particularly impressive dynamic in the context that nearly all the other major regions of the US are also expected to demonstrate growth over the same period as US output continues to recover from a dip during the period following weaker oil prices in 2015 and 2016.

US crude oil production by region



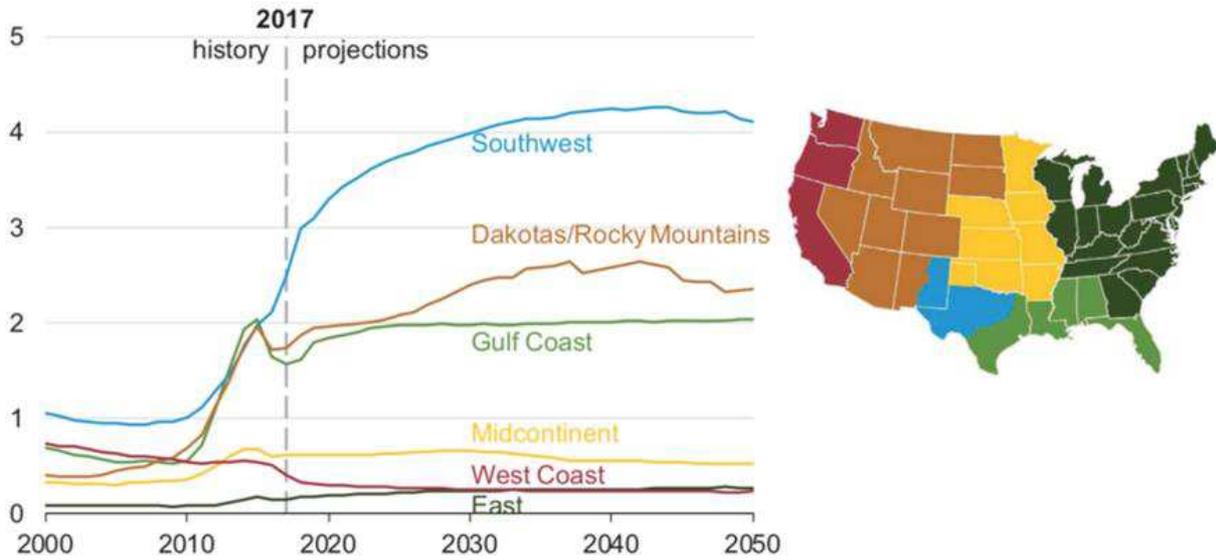
Source: US EIA

Longer term estimates

Some longer term forecasts for the Permian Basin are particularly bullish and London-based global information provider, IHS Markit, estimates that output from the Permian Basin could reach 5.4 mmbopd as early as 2023 as the US continues to expand crude exports.

Even the more conservative assessment by the EIA looking considerably further into the future demonstrates that production from the Permian region of the US (termed 'Southwest' in the chart below) will continue to grow well into the 2040s and exceed 4.0 mmbopd for many years.

Projected US oil production by region (mmbopd)

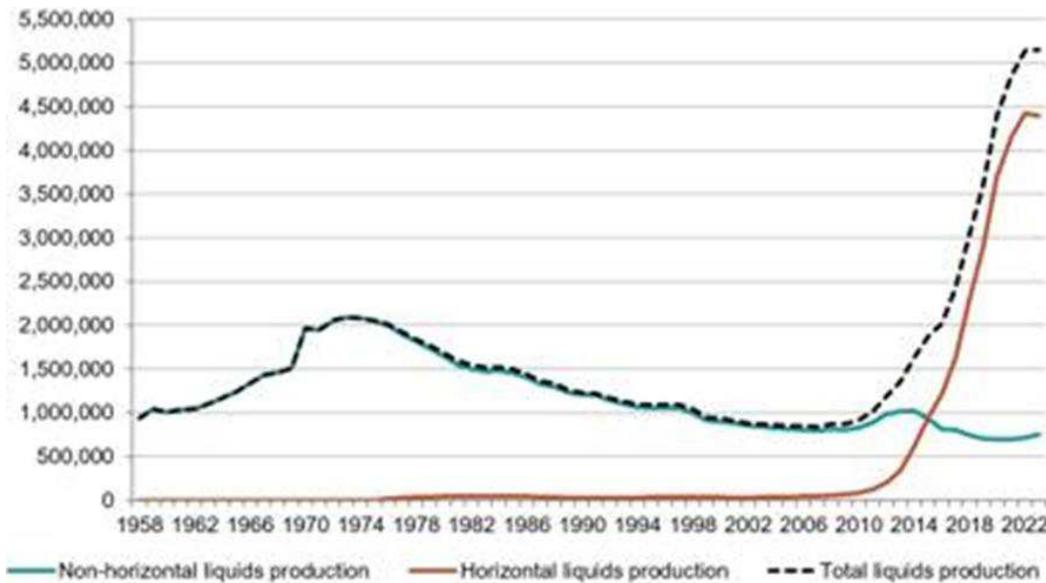


Source: US EIA

A horizontal drilling revolution

The chart below depicts clearly that the strong growth in the Permian (and other unconventional oil and gas producing regions) is being driven by the rapidly increasing deployment of horizontal drilling techniques (see later section of this report) increasingly utilised more effectively and at lower cost to recover increasing volumes of hydrocarbons in recent years. We expect that lower cost vertical drilling techniques will continue to be used within the Permian for the foreseeable future. However, we anticipate that nearly all the future production growth will be attributable to output derived from horizontal wells completions over the coming years.

Permian Basin oil production by drilling category



Source: HIS Markit (2017)

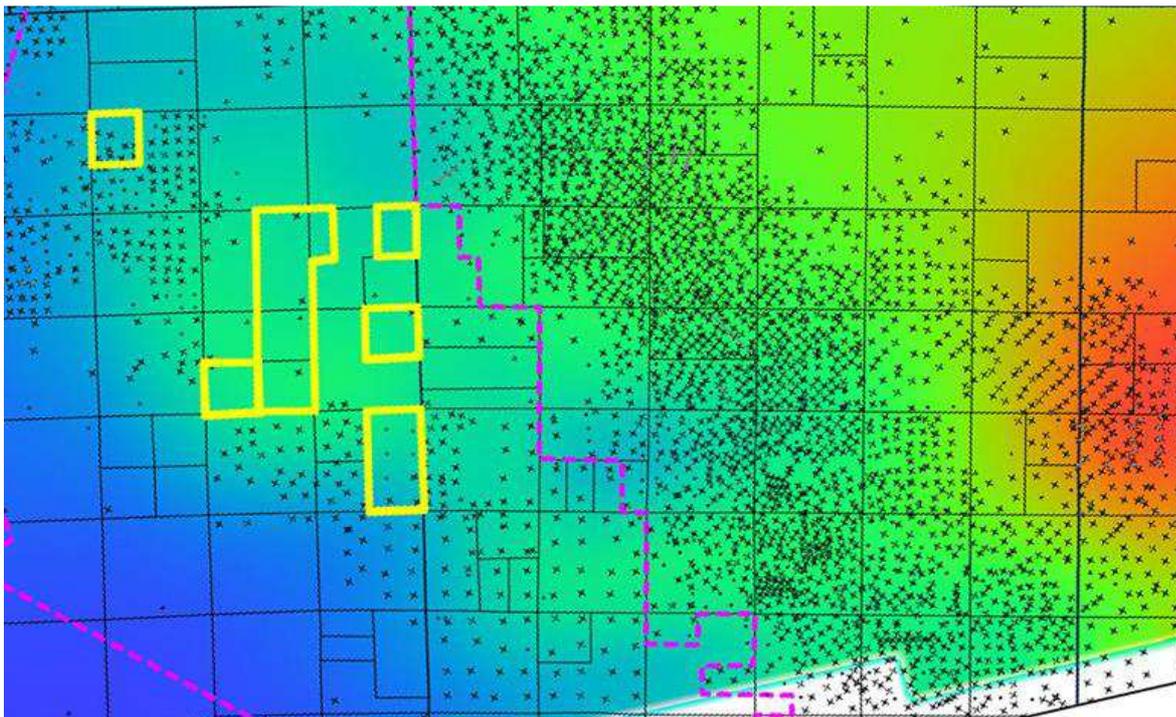
Acquisition of Mesquite

On 22 October 2018, Nostra Terra announced a step change in its asset base with the acquisition of a 100% working interest in the Mesquite asset (Mesquite) located in the Eastern Shelf region of the Permian Basin in West Texas. The acquisition consists of 1,384 net acres with the potential to drill up to eight horizontal wells on the property.

Nostra acquired Mesquite from private US company, Tall Exploration III, for a consideration of US\$150,000 in cash and under the terms of the deal, Tall City will retain a one eighth carried working interest in the first horizontal well to be drilled on the asset. Nostra Terra has bought out the one eighth carried working interest for an undisclosed sum and retains 100% working interest. Nostra Terra is the operator of the asset

The map below depicts the extent of the Mesquite acreage acquired. We note that the precise location of these assets is deliberately approximate. This is necessitated by the highly competitive nature of the acreage acquisition market across the Permian Basin. Should Nostra Terra publicise the precise location of its acreage and particularly its plans to drill and develop the site at a later date then this could increase significantly the potential acquisition price of adjacent acreage thereby prejudicing its possible acquisition by the company.

Mesquite Project location



Nostra Terra
Leasehold



Prospect Outline

- Disposal
- DRYHOLE
- GAS
- OIL
- Unknown Status
- Water

Source: Trey Resources

Option to increase Mesquite position

On 17 January 2019, Nostra secured a 12-month option to acquire a further 600 net acres (800 gross) to add to its existing purchase. This would increase the company's net acreage position to 1,984 acres in a contiguous land parcel. Under the terms of the option, Nostra would acquire the leases for US\$320,000 in cash to complete the deal and by funding 100% of the cost of a recompletion of one dormant vertical well on the acreage.

There are currently 11 active wells on the acreage with minimal but stable production. However, the leases are held by production (HBP) which indicates that they remain in force as long as there is continuous oil production on the acreage.

First horizontal well at Mesquite

On 29 April 2019, Nostra identified an additional 160-acre opportunity in the Mesquite target area. This wider region covers more than 30,000 acres, part of which (1,384 acres plus an option over a further 600 acres) has already been secured by the company.

The new lease is a standalone asset and represents an immediate opportunity for Nostra to drill a half-mile horizontal well to potentially increase its proven reserves at Mesquite. It should be noted that the company would retain its existing 100% interest over its existing Mesquite acreage in the event that it drills a well on the new acreage.

Nostra can fund the intended well through a combination of existing cash resources and selling off a percentage working interest in the new acreage to a third party investor. The company has already received expressions of interest from potential industry partners.

Following Nostra's successful placing in February 2019, the company engaged an oil industry landman to begin title work and secure the new lease for the company. Nostra had already identified the lease and entered into discussions with the current mineral owners.

These negotiations are almost complete and once concluded, Nostra intends to apply for a permit to drill a horizontal well. With permitting assured, the company will then secure a rig and prepare a drilling pad at the well location. These activities are expected to take place over the coming months.

This is an exciting development for Nostra as it will primarily enhance the company's acreage footprint in the wider Mesquite area. A maiden horizontal well in this area of the Mesquite also represents the potential to de-risk the play considerably, increase the proven reserves base and deliver a significant boost to cash flow soon after commencement of production.

We believe that a successful well result will also accelerate considerably the company's efforts to secure a farm-in partner for the existing Mesquite acreage.

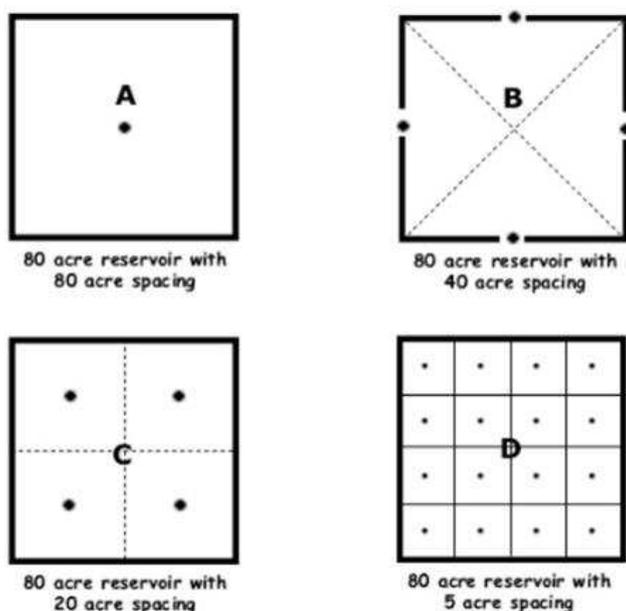
Development potential of Mesquite

This area of the Permian Basin is long established as a producing region as evidenced by the proliferation of oil and gas wells on adjacent acreage. This is clearly depicted on the map above although it is also clear that Nostra's acreage is considerably less intensively drilled than regions to the west and northeast, offering the potential for significant drilling upside.

The Mesquite area has several producing wells that were drilled vertically on 40 acre spacing and in more recent years, operators have experienced success with wells drilled on tighter 20 acre spacing. On this basis, Nostra estimates that its acreage could host a minimum of 35 vertical well locations on 40 acre spacing or 70 wells on 20 acre spacing. However, the company believes that the true potential of the asset will be a development plan based on a considerably fewer number of horizontal wells.

For explanation and clarity, the illustration below depicts the notional concentration of wells on a section of acreage whereby the spacing determines the density of well bores on a property and the subsequent overall recovery rates for the developed oil.

Examples of well spacing



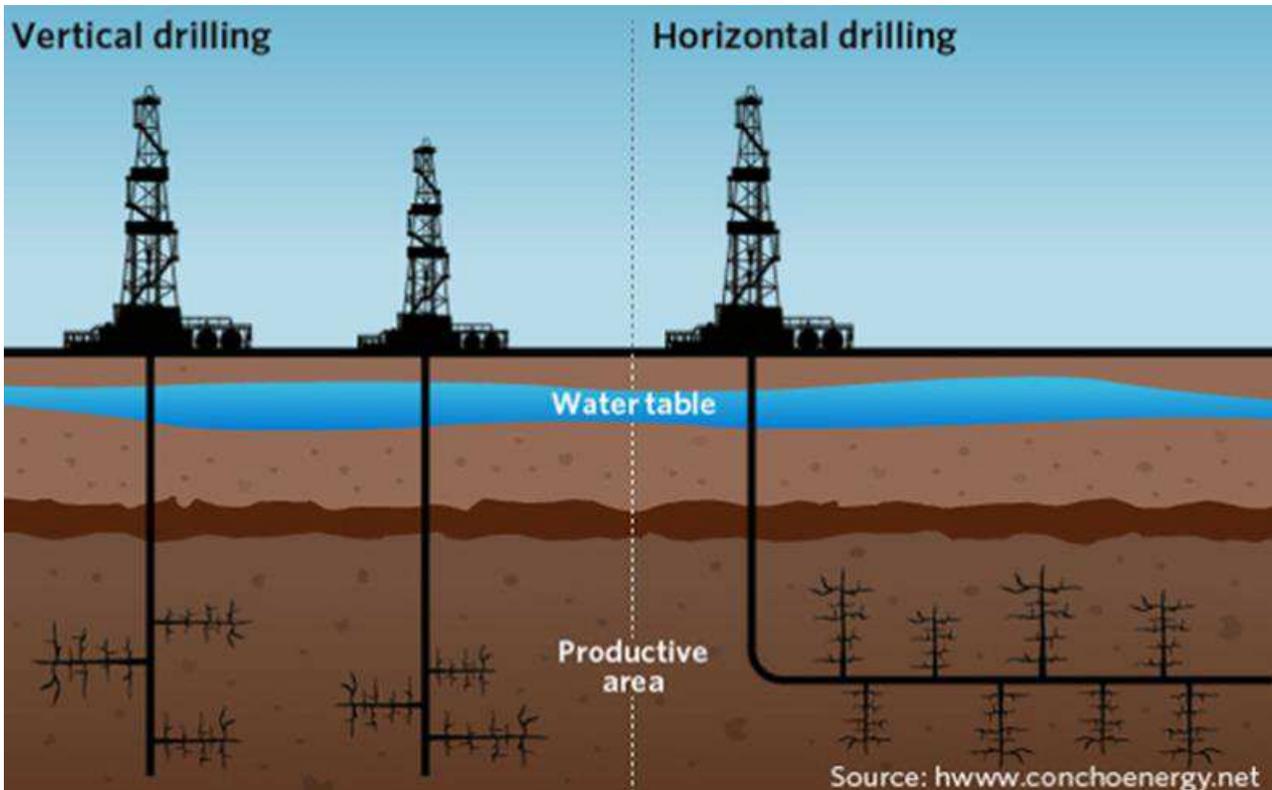
Source: Texas A&M University

Horizontal drilling

As the illustration below depicts, horizontal wells are drilled at an angle to the vertical well bore and run parallel to the reservoir in an oil bearing formation. This well-established technique, which has been one of the key drivers of US oil production over the last decade, increases substantially the volume of reservoir that can be targeted and produced by a single well bore. Although horizontal wells usually cost at least three times that of a vertical well targeting the same horizon (depending on the length of the horizontal section), initial production (IP) rates from a horizontal well can comfortably be 8-10x that of a vertical implying more rapid payback and considerably higher recovery rates over the productive life of the well.

The tight (low permeability) target formations of the Mesquite property are suitable for horizontal drilling and have a proven track record of substantial production in other areas of the Permian Basin. In the case of Mesquite, regional analogues suggest that IP (initial production) rates could be in the 200-300 bopd range, with potential highs of 500 bopd, compared to typical vertical well IPs of only 20-60 bopd.

Horizontal vs vertical well drilling



Source: Concho Energy

Appointment of Trey Resources

Immediately after the announcement of the acquisition of Mesquite, Nostra appointed Trey Resources Inc. (Trey) to devise a Field Development Plan (FDP) for the asset. Trey is also an operator of Permian Basin assets complemented by specific experience in horizontal drilling across the region. In particular, Trey’s analysis, which is examined in the next section of this report, includes a complete petrophysics work up and full log analysis to assess the reserves potential for the Mesquite asset. The work also proposes well and completion designs and includes volumetric analysis to identify optimal targets for lateral wells.

Mesquite economics report

Based on the initial 1,384 net acres that Nostra holds at Mesquite, Trey has estimated that the field has the potential to recover 2.4 mmbbls of oil (Estimated Ultimate Recovery or 'EUR'). We note that assessment does not represent an audited reserves number but rather an estimate based on Trey's analysis of the asset in the context of its deep experience in this region of the Permian Basin.

To this reserves estimate, Trey has ascribed a value of US\$21.6m (NPV 10) based on 'strip' pricing at the time of the publication of the report in January 2019 and a higher value of US\$28.6m (NPV 10) based on a flat oil price of US\$60 per barrel. The NYMEX Strip Price refers to the average closing price of contracts for future delivery for the next 24 months as of the closing of trading on the New York Mercantile Exchange (NYMEX) on the date of any calculation. For the purposes of our assessment, we have elected to focus on the higher US\$60 per barrel valuation case given that it more accurately reflects WTI (West Texas Intermediate blend) pricing since the completion of the report. Since January 2019, WTI has rallied and is currently in excess of US\$64 per barrel.

Trey's base valuation of Mesquite ascribes a pro forma value per acre of US\$15,625 at strip pricing at the time of the report and a higher US\$20,669 per acre at a WTI price of US\$60 per barrel.

Horizontal well design

Trey is an operator of Permian Basin assets with specific expertise in horizontal drilling and in the preparation of its report; Trey has focused on a Per Well Economic (PWE) model. Trey's well design is based on a single horizontal well on 160 acre spacing. The primary formations are located at a vertical depth of approximately 3,000 to 4,500 feet depth in the Mesquite area and each well would have a horizontal section of 5,000 feet to probe the oil bearing formation as outlined on the previous illustration.

Trey anticipates that the EUR of each well could be 300,000 barrels of oil with IP estimated to be 265 bopd over the first 30 days of production. The economic life of each well is estimated to be 20 years with 100,000 barrels of oil produced in the first three years of each well's productive life. We note that Trey has ascribed a NPV 10 of US\$3.3m per horizontal well based on US\$60 oil pricing providing a 46% Internal Rate of Return (IRR).

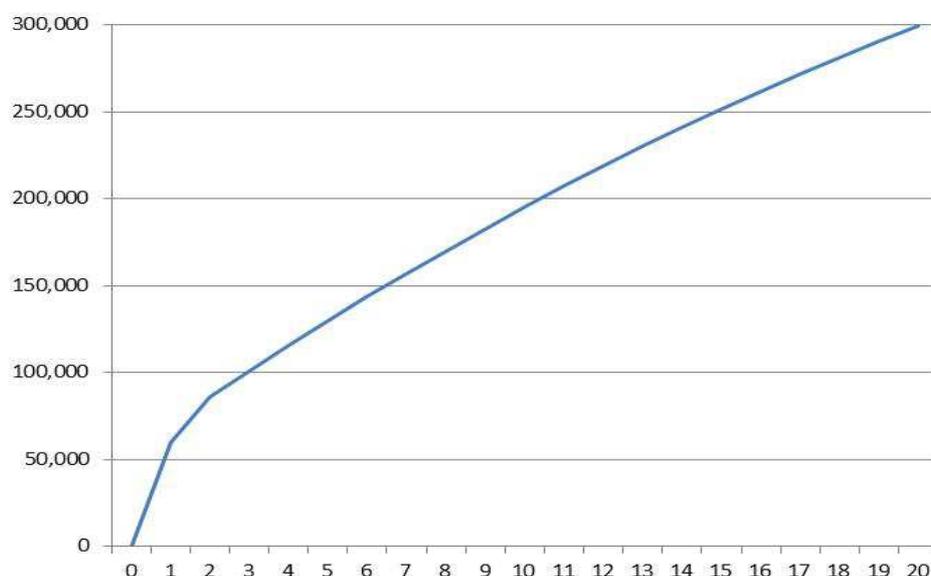
On the basis of Trey's findings we estimate that the current Mesquite asset could be developed fully with a programme of eight horizontal wells. Based on the current fragmented nature of the current acreage package at Mesquite, we expect that the company will need to do additional leasing or pool with other parties in order to fully develop the acreage. However the given the option on the additional 600 acres, Nostra Terra is showing their ability to enhance their acreage position further.

Verification of Trey's assessment

On the basis of the information available and by applying several additional variables, we have attempted to verify Trey's assessment of the economics of a single horizontal well on Mesquite.

We have applied the production profile outlined below, whereby proportionally higher production in the early years delivers 100,000 barrels of oil in the first three years. Assuming that IP is 265 bopd in the first month of production, we have applied a decline rate, characteristic of wells in this area of the Permian Basin, over the first three years. After year three, we have assumed that production stabilises at a rate of approximately 40 bopd declining more gradually over a 17 year period to the notional end of well life.

Estimated cumulative production for a Mesquite horizontal well – years of production(x) vs bbls (y)



Source: Shard Capital estimates, Company

Well variables

As the chart above depicts, we have applied an EUR of 300,000 barrels of oil to each horizontal well. We have also applied an oil price of US\$60 per barrel to all production flat over the life of the field. To gross field revenue, we have applied a royalty of 25% and oil production tax of 4.6% to the market value of oil produced.

As per Trey’s guidance, we have assumed that a single well will cost US\$2.9m to drill and complete. To the capex, we have also applied further expenditure of US\$310,000 in the first two years of which US\$150,000 represents expenditure on an ESP (Electronic Submersible Pump) after the initial IP declines after month one. We anticipate expenditure of a further US\$160,000 after approximately 18 months as the field converts to a rod pump as long term production is established at a more constant rate.

After the application of operating expenditure (opex) of approximately US\$6,500 per month for a single well to represent primarily energy and manpower costs to maintain production and offtake of the oil, we arrive at an indicative NPV 10 of US\$3.3m for a single lateral well on Mesquite which corroborates Trey’s findings. Naturally, any derivation from our variables, particularly capex and opex, will impact this estimated valuation.

We note that similar to Trey’s findings, this assessment is prior to the application of Federal corporation tax (currently 21%) which is applied at the company level. As a company such as Nostra incurs central costs such as depreciation and administrative which currently offset a significant proportion of Federal corporation tax, we believe that it would be misleading to apply a blanket rate to an individual asset which is unlikely to incur such as rate, particularly in the earlier years of production.

Payback

Within our assessment, we have established an IRR of approximately 41%, similar to that of Trey and we estimate that the full payback of drilling costs is achieved approximately 15-18 months after the commencement of production, assuming a flat oil price.

Development solutions for Mesquite

As it stands, Nostra is not funded to expedite a horizontal well on Mesquite although there are several options open to the company at this stage. Primarily, Nostra is examining the potential to bring in a farm-in partner to facilitate further work on the project and since January 2019, the company has received several unsolicited approaches from potential industry partners.

The company is confident that this approach will be successful and in January 2019, Nostra opened a data room complete with the analysis conducted by Trey and Nostra in their assessments of Mesquite and the surrounding area. The data includes a 15 square mile volumetric map and details of the in-house regional petrophysical analysis that Trey used to create effective porosity, water saturation and net maps to build the volumetric model for Mesquite.

We note that the Mesquite area consists of at least 30,000 acres of significant expansion potential which we believe provides highly attractive upside for any potential farm-in partner.

Recent placing provides liquidity

Nostra raised gross proceeds of £1.15m by way of the placing of 47.9 million new shares at 2.4p per share in late February 2019 through its broker Shard Capital. Although, we believe that the company is currently operating at close to a cash breakeven position, this additional capital will strengthen the group's position as the process to identify and secure an appropriate farm-in partner for Mesquite continues. In particular, the additional funds will enable Nostra to maintain a larger interest in Mesquite post farm-in as a function of the company's ability to fund a larger share of future drilling costs.

Pilot well potential

One avenue open to Nostra is the potential to use existing funds to drill a vertical pilot well on Mesquite in order to demonstrate the prospectivity of the acreage and also to provide a crucial data point for future horizontal well placement and development. A vertical well is likely to cost considerably less than US\$1.0m to drill and complete and can be drilled quickly given the relatively shallow depths of the key formations at less than 5,000 feet measured depth.

A vertical well is estimated to be capable of producing IP rates of 20-60 bopd. However, it is more likely that the well would not be put on long term production but rather serve as confirmation of the data, characteristics and potential of the formations in addition to other potentially productive horizons. After crucial information has been gathered from a vertical pilot well, it could also serve a valuable purpose, being converted and used as a water injection well to maintain reservoir pressure for subsequent horizontal wells drilled on the property.

Alternatively, the recent identification of an additional 160 acre opportunity in the Mesquite target area presenting the opportunity to drill a half-mile horizontal well, as outlined previously, could also serve as an affordable solution to a pilot well as this well could be drilled for considerably less than the estimated US\$2.9m for a one-mile lateral. Given that it would also likely be completed as a producer, a shorter horizontal well would also provide early cash flow, potentially mitigating future financing requirements.

Debt facility solution

A maiden horizontal well on Mesquite would represent a watershed moment for Nostra given that demonstrable cash flow from initial production could provide access to considerably larger bank debt facilities by which to fund future drilling and development costs. We believe that increased cash flow from a concerted drilling programme would provide sufficient free cash to enable the company to pay down debt rapidly and fund future drilling costs from internal resources.

Mesquite valuation assessment

In order to assess Trey's valuation of Nostra's Mesquite acreage, we have conducted our own valuation in an attempt to reverse engineer and provide verification of Trey's findings. Within our assessment, we have applied a notional development of eight wells over three years in order to develop the full 2.4 mmbbls of reserves as estimated by Trey.

Each well performs as outlined in the previous section with an IP rate of 265 bopd and a EUR of 300,000 which is expected to recover the full resource. We have applied the same royalty and production tax regime as outlined earlier and US\$60 flat oil price over a 20 year life of field.

Capex is estimated to be US\$23.2m for the well programme although this could be lower as the benefits of drilling back to back wells have the potential to drive unit well costs down. Our opex is estimated at US\$8,000 per well per month. This is higher than the estimate for the individual well given that there is likely to be additional infrastructure to manage and increased ongoing well maintenance costs.

On this basis, we arrive at an NPV 10 of US\$28.0m for Mesquite based on a 100% working interest for the company. This is close to Trey's estimate bearing in mind that some of the more specific details of Trey's findings are not publically available.

Funding options and solutions

As yet, Nostra is not fully funded for the drilling of a maiden one-mile horizontal well on Mesquite although the potential to drill a shorter half mile lateral on the new 160-acre land package could provide a solution to this in the short term. Nonetheless, the inclusion of a farm-in partner at a later stage will have a significant impact on the level of funding required for the company to commence development activities.

Within our model, we have assumed that the first two wells are drilled and completed in the first twelve months implying a capex exposure of at least US\$5.8m gross before cash flow from initial production kicks in and the project can become technically self-funding in year two, even allowing for the drilling of four additional wells. With the backing of a farm-in partner on for example a 50/50 basis, this exposure falls to only US\$2.9m net to Nostra, providing the company with attractive potential equity or debt funding options.

Existing Permian Basin operations

Nostra has three existing Permian Basin properties which the company acquired in October 2017. These are located in Mitchell County, Texas (see map below), in close proximity to Mesquite and consist of a 53.25% working interest in a 120 acre lease. The company paid a modest US\$40,000 for its interest and all three leases are held by production (HBP).

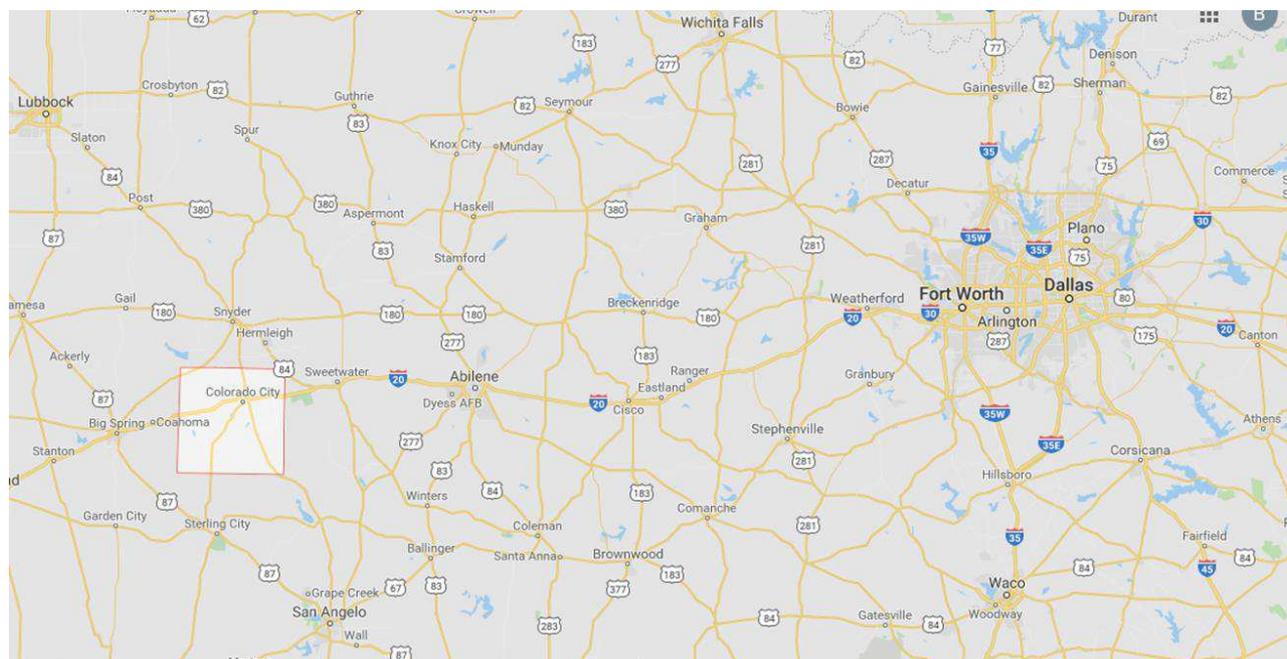
Nostra has three existing Permian Basin properties which the company acquired between November 2016 and October 2017. These are located in Mitchell County, Texas (see map below) and consist of a 53%-75% working interest in 370 acres. The company paid a modest US\$202,500 for its interest and all three leases are held by production (HBP). The three individual acquisitions are outlined in the table below.

Permian Basin acquisitions

Date	Acreage	Interest	Consideration
3 November 2016	50	57.20%	US\$62,500
23 February 2017	200	75.00%	US\$100,000
31 October 2017	120	53.25%	US\$40,000

Source: RNS, Company

Location of Mitchell County, Texas



Source: Google Earth

Twin Well success

The company drilled the shallow vertical G5 or 'Twin Well' in November 2017. This was termed as such given that the target had been previously drilled by mistake from an offset operator whose well on the adjacent acreage had extended over the lease boundary. Although this resulted in the production of 350 barrels of oil in less than three days, this error was rectified swiftly by the offset operator which submitted the valuable well data and payment to Nostra for the oil produced from the acreage.

Nostra’s Twin Well targeted the same formation at the initial well which was plugged and abandoned by the adjacent operator. In return for its 53.25% working interest, Nostra agreed to fund 71% of the cost of the Twin Well representing the first well on the three leases under the terms of the acquisition. The pre-drill cost of the well was estimated to be US\$340,000 of which Nostra was contracted to pay approximately US\$241,400.

The Twin Well was drilled to a total depth of 3,200 feet in approximately one week in mid-November 2017 and encountered several formations as expected including the Upper and Lower San Andreas, Glorieta and the three Upper, Middle and Lower Clear Fork horizons. The well intersected over 113 feet of gross pay across its targeted objectives with further upside identified in additional pay below the key Clear Fork. The well was completed on time and below budget.

The well was completed in the Clear Fork formation and placed on production in February 2018. Over the first 12 day production period, the company reported average production of 52 bopd which was ahead of pre-drill estimates. The company noted in February 2019 that Twin Well had achieved full payback of its initial drilling costs in less than one year after being put into production which exceeded the expectations of the company at the time.

Current pumpjack and oil storage and offtake facilities at Twin Well



Source: Shard Capital

Further drilling activity in Mitchell County

In May 2018, Nostra spudded the G6 well which was drilled to a depth of 3,206 feet encountering the same formations as witnessed in the Twin Well. The well intersected more than 103 feet of gross pay and was subsequently completed and put into production in June 2018. Although not as prolific a producer as the Twin Well, the wells combined to produce approximately 63 bopd (gross) in July 2018 of which we estimate, the G6 contributed approximately 15-25 bopd (gross) in the first month of production.

Pumpjack at the G6 well head

Source: Shard Capital

C8 well shut down at minimal cost

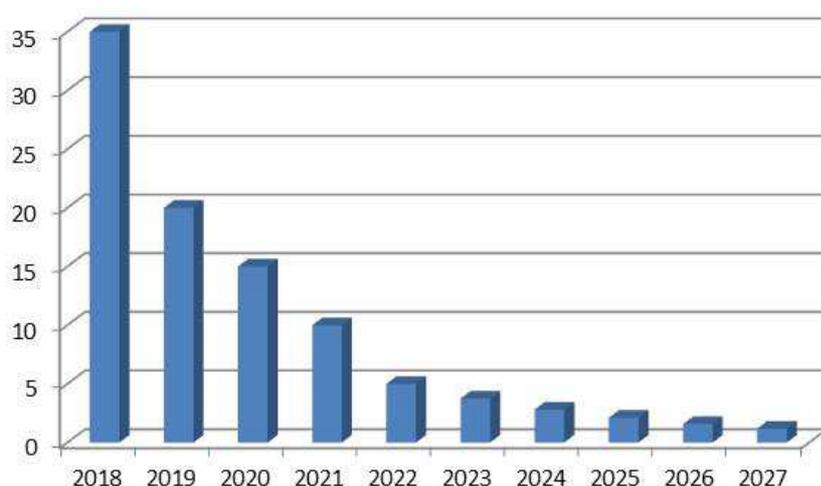
A third well on the Mitchell County asset, termed the C8 well was also drilled in May 2018. However, operations were shut down when the well encountered a high pressure inflow of salt water at approximately 2,195 feet, several hundred feet above the target depth. The well was shut-in for safety reasons and also before the bulk of drilling and completion funds were incurred, thus reducing Nostra's financial exposure to the well significantly. The well also provided valuable data which the company has been able to apply to its plans for future wells in the adjacent area.

Mitchell County well economics

We note that the EUR of a vertical well such as Twin Well is approximately 35,000 barrels of oil. The value of an individual well is modest and our calculations suggest an NPV 10 for Twin Well of approximately US\$0.3m net to the company. This is based on a long term US\$60 oil price flat over the life of the field and a production profile consistent with that outlined in the chart below. It is also calculated prior to Federal corporation tax for reasons outlined earlier in this report.

The individual economics of a well are attractive and we estimate an IRR of over 100% for a single well and a NPV per barrel of oil of over US\$16.00. Although the payback parameter for the G6 well is yet to be determined, we have assumed similar metrics for the well given its proximity and similar characteristics compared to Twin Well.

Estimated production profile for Twin Well (bopd)



Source: Shard estimates

Vertical wells provide valuable data and cash flow

Although these wells provide attractive individual returns for Nostra, they are unlikely to provide the company with the scale compared to that of a horizontal well programme on Mesquite. However, they do demonstrate Nostra’s competence as an operator and its ability to oversee drilling programmes. Such activities also provide valuable ongoing cash flow to the group as well as accumulating data points on acreage located close to the Mesquite package of assets.

East Texas – Pine Mills oil field

Pine Mills is located in Wood County in East Texas (see map below). The asset in which Nostra holds a 100% working interest covers 2,400 acres and is located in the western region of the large East Texas oilfield. The company acquired Pine Mills in November 2016 and has invested in an ongoing workover programme in the field in order to increase production in the intervening period. Gross output from Pine Mills peaked at 155 bopd in July 2018 and we believe that current production is in the region of 130 bopd.

Location of Wood County in East Texas (inset: map of the extent of the East Texas oil field)



Source: Google Earth, Wikipedia

Pine Mills reserves

The East Texas field was discovered in 1930 and has produced well in excess of 5 billion barrels since then. Within the wider region, Pine Mills is a mature field discovered in the 1950s which has produced over 12 million barrels of oil to date.

Third party reservoir engineering firm, APN Energy estimated in December 2017 that gross reserves remaining on the field were 578,760 barrels of which 450,280 barrels was net to Nostra after royalties. These reserves are classified as Proved Developed Producing (PDP) and Proved Developed Non-Producing (PDNP) implying that they can be produced with the minimum of additional expenditure on workovers. The company's internal estimates also indicate upside of a further 1.39 mmbbls of possible reserves based on existing studies of the field although we believe that accessing these upside would require additional drilling on the field.

Conventional production assets

It is important to note that unlike Nostra’s assets in the Permian Basin, Pine Mills represents more ‘conventional’ production implying that the producing reservoirs on the field demonstrate higher porosity and therefore oil can be recovered from vertical wells which demonstrate a less aggressive decline curve compared to ‘tight’ or unconventional reservoirs.

East Texas field well bores are usually perforated at the production horizons in the conventional sense. However, in general, the wells are not fracked (hydraulically fractured) as they are in the case of a horizontal completion. This reduces considerably the ongoing expenditure on the field and implies that new wells can be drilled and completed inexpensively for less than US\$0.7m each.

Pine Mills has a total of 15 wells on the acreage of which 13 are currently online. We understand that workovers to bring offline wells back on stream can be performed for less than US\$50,000 each and funded from internal cash resources. The photograph below depicts a workover in progress (as at April 2019) on one of Pine Mills wells targeting the Woodbine formation which is in evidence across Nostra’s acreage.

Workover activity at Pine Mills (as at 2 April 2019)



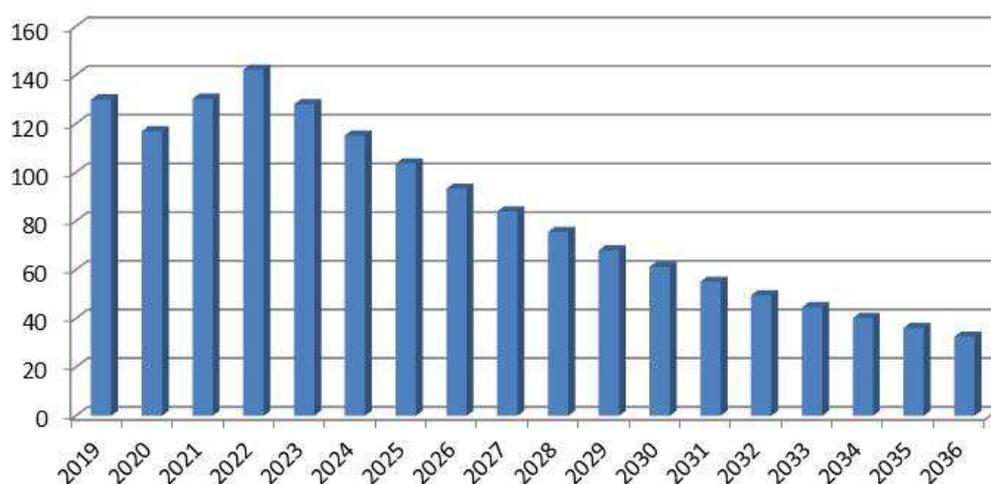
Source: Shard Capital

Value of Pine Mills to Nostra

Although Pine Mills does not represent the future growth engine for Nostra in the way that Mesquite could, it nevertheless is a valuable source of cash flow for the company and we estimate that the field delivers over US\$2.0m of annual net revenue to the company at existing production rates.

We have attempted to ascribe a valuation to the remaining reserves on Pine Mills based on the estimated production profile below to which we have ascribed a flat oil price of US\$60 over the life of the field. We believe that this is a solid foundation given that Nostra has hedged 1,500 barrels of oil per month at US\$60 per barrel in 2019, equivalent to nearly 50 bopd of production. This has proved an astute move by the company given that WTI has only recently exceeded US\$60 per barrel in April 2019. As such, the company will receive any upside to the current oil price over the remainder of 2019 on more than half its current production.

Estimated production profile for Pine Mills



Source: Shard Capital estimates

Other key variables

We have ascribed a royalty of 22.5% to the gross production and Texas state oil production tax of 4.6%. Our estimates also include capex of US\$100,000 in each of 2019 and 2020 to reflect workover activity and our opex is estimated at US\$3,000 per well per month to cover primarily energy costs and manpower which keep operations functioning on the field.

Consequently, we have generated a NPV 10 of US\$8.6m for the remaining reserves on the field, equivalent to nearly US\$15.00 per barrel on a unit basis. We note that this valuation underpins Nostra's current market value indicating that the upside represented by Mesquite in particular is not factored into the current share price.

Egypt – East Ghazalat Concession

The East Ghazalat Concession is located in the Western Desert region of Egypt, approximately 240 km southwest of Cairo in a platform region over the Sharib-Sheiba high, an area which covers an area of approximately 626 km². Field facilities are located 130 km south-southwest of El Alamein on the Mediterranean coast.

The Concession is limited to the north by the southwestern extension of the Alamein Basin. The southern part of the concession is situated in the Abu Gharadig and Margin Basins, the former of which holds some of the greatest hydrocarbon potential in the Western Desert of Egypt.

The Concession is operated by North Petroleum International Company SA, a subsidiary of Chinese state owned oil company, China ZhenHua Oil Co. Ltd. It consists of two development licences covering approximately 62 km². These were awarded in July 2011 and February 2014 respectively. North Petroleum operates the concession as a Joint Venture with a 50% interest whereby Nostra holds the other 50% interest. Nostra holds its interest in Ghazalat through Independent Resources Egypt (IRE) which in turn owns a 100% interest in the company's ultimate subsidiary, Sahara Resources (GOS) Inc. (Sahara).

In April 2018, Nostra announced that unresolved issues between Sahara and North Petroleum, relating to the Joint Venture at East Ghazalat, have been referred for arbitration.

Referral for arbitration

IRE (50% Independent Resources Group, 50% Nostra Terra) acquired its stake in the Concession from TransGlobe Petroleum International Inc. on 15 October 2015 for a headline consideration of US\$3.5m, satisfied by the payment of US\$1.0 in cash and the issue of the US\$2.5m loan note to TransGlobe. In September 2016, TransGlobe accepted repayment of the US\$2.5m loan note for US\$200,000. This improved the implied acquisition cost of IRE's stake in the Concession to US\$1.2m, which equated to US\$1.19 per barrel of 2P oil reserves attributable to the acquired interest.

As at 30 June 2015, Gross 2P reserves attributable to IRE's interest in the Concession were estimated at 1,008,922 barrels of oil on 30 June 2015 (DeGolyer and MacNaughton Canada Limited). In addition there are two natural gas discoveries on the concession. In the event of a settlement with North Petroleum, Nostra believes there could scope to increase production, which the company understood to be approximately 450 bopd in April 2018.

Prior to April 2018, Nostra reported on 29 September 2017 and 8 January 2018 that it had been working to resolve certain legacy issues relating to the East Ghazalat Concession which involved discussions with North Petroleum as well as the Egyptian General Petroleum Corporation (EGPC), the national oil company of Egypt.

It remains Nostra's belief that North Petroleum has failed to abide by the Joint Operating Agreement (JOA), which governs the management of the Concession and although Nostra has made proposals to resolve its differences with North, negotiations reached an impasse and Nostra Terra suggested that international arbitration could be the most effective way to seek resolution.

North Petroleum has now referred the matter to Arbitration in The London Court of International Arbitration pursuant to the terms of the JOA. Nostra is in discussions with its legal advisers in respect of the process going forward.

We believe that this is likely to be a slow and methodical process and with no material indications regarding the progress of the arbitration process, we are treating Nostra's interest in East Ghazalat as non-core at this stage pending a potential resolution.

Appendix A – Officers and Directors

Ewen Ainsworth – Non Executive Chairman

Ewen is a chartered management account and a fellow of the Institute of Petroleum. He has 30 years' experience in the industry at various stages of the oil and gas life cycle from exploration to appraisal/development, production and de-commissioning. Beginning his career in the late 1980's at Conoco, Ewen has taken on Financial Controller, Financial Director and CFO roles across various public and private companies, including six years as Financial Director of Gulf Keystone Petroleum Limited, where he worked until 2014.

He is currently CFO of San Leon Energy Plc, listed on the London Stock Exchange. During his career, he has been involved in companies with assets and operations across the UK, Europe, Russia, Azerbaijan, Iraq and North and West Africa.

Matt Lofgran - Chief Executive Officer

Matt has wide experience of business development in the energy, real estate and communications sectors. Prior to becoming CEO of Nostra Terra, he was with Robson Energy, LLC, latterly as Vice President of International Business Development. In this capacity, he launched the oil and gas, field services and coal divisions, and was responsible for extending Robson Energy's activities into Mexico.

Matt holds a Bachelor of Business Management degree from the University of Phoenix and a Global MBA from Thunderbird School of Global Management. He is also a Director of Elephant Oil Limited.

John Stafford - Non-Executive Director

John Stafford has 35 years' experience in the oil & gas industry and is a geoscientist, with specialist expertise in oil field development and reserve certification and reporting. Previous roles include Vice President of Operations at Gulf Keystone Petroleum Limited, a position he held from May 2014 to January 2017, having joined that company as Manager, Geology & Geophysics in early 2009.

John has worked with well-known companies in the oil and gas industry, such as ECL, Schlumberger and PGS, managing projects in integrated field management and all aspects of reserves certification and reporting. This includes the production of Competent Persons Reports. John has further experience of fractured reservoir development and risk management.

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